

GUIDANCE FOR THE DESIGN AND OPERATION OF YARD WASTE COMPOSTING FACILITIES

This document puts forth guidance regarding the design, operation and registration of yard waste composting facilities. This document outlines the requirement of IC 13-20-10 and offers several approaches that persons may take to ensure that these facilities are designed and operated according to IC 13-20-10 (Formerly IC 13-7-35). It is suggested that this document be used as guidance to comply with the registration, siting, design and operational requirements of IC 13-20-10.

A. Definitions

The following terms are defined as they apply to a yard waste composting facility. Terms in *italics* are defined in IC 13-20-10.

- 1) “*Active area*” means the raw compostable matter storage area; the composting matter area; the compost curing area; or the compost storage area; of a composting facility for vegetative matter.
- 2) “*Vegetative matter*” means any yard or landscaping waste, including leaves, grass, brush, limbs, and branches resulting from commercial, industrial, and agricultural operations or from community activities.
- 3) “*Compost*” means the product produced by the composting of vegetative matter.
- 4) “*Composting*” as used by this rule means biological treatment process by which microorganisms decompose the organic component of vegetative matter.
- 5) “*Water table*” means water below the surface in the zone of saturation.

B. Applicability

Unless exempted by subsections (1), (2), (3), or (4), after August 1, 1993, all owners or operators of a composting facility must submit an application to register the composting facility with the department. The registration requirements do not apply to the following:

- 1) A person who conducts a composting operation at the person's residence or farm for vegetative matter that are generated by the person's activities and are stored, treated, or disposed of at the person's residence or farm.
- 2) A person who conducts a composting operation that processes less than two thousand (2,000) pounds of vegetative matter during a year.
- 3) Temporary stores of vegetative matter where only an incidental amount of composting will occur before its removal.
- 4) A person who is engaged in the land application of vegetative matter for use as a soil conditioner.

C. Registration

The following information is required to register a composting facility with the department:

- (1) The name and address of the owner/operator of the composting facility.
- (2) The location of the facility, including a legal description of the site on which the composting facility will be located. To adequately address this requirement, IDEM requires that the legal description include the county, township, range, and section numbers, and if applicable, the metes and bounds description, together with the acreage thereof for the composting facility site.
- (3) A topographic map of the site on which the composting facility will be located with the site outlined. IDEM requires a USGS topographical map (7 ½ minute) or equivalent, with the proposed composting facility active area boundaries clearly delineated.
- (4) A description of the composting facility that indicates the geographic area to be served by the composting operation.
- (5) An estimate of the volume of materials that will be processed annually by the composting facility.
- (6) A description of the proposed final use of composted materials.
- (7) A description of compost management procedures to be implemented at the facility including controls for dust, odors, and noise.

- (8) A description of the methods proposed for collecting, removing, and disposing of unwanted and noncompostable materials received at the facility.
- (9) IC 13-20-10 requires that the active area be designed and operated to prevent compost from being placed within five (5) feet of a water table or provide adequate controls to prevent ground or surface water contamination. IDEM requires that the applicant submit information, as required by option (i) or (ii) below, to demonstrate that the facility will meet the requirements of IC 13-20-10.
 - (i) If the applicant intends to provide a minimum distance of five (5) feet between compost and the water table, include a soil boring report, soil maps, or other verification indicating the distance to the seasonal high water table at the site.
 - (ii) (alternative design to protect ground and surface water) If the applicant intends to provide an alternative design in lieu of providing at least five (5) separation distance to the water table, provide information to show that your design will include one of the methods described in section D(d) (1) of this document.
- (10) A description of surface water drainage control and leachate management procedures to be implemented at the composting facility to show that the facility will include one of the methods described in section D(d)(2).
- (11) A signed certification by the owner/operator of the composting operation that the facility is in compliance with the siting, design, and operational requirements of IC 13-20-10 on forms provided by the Department.

Registrations granted under IC 13-20-10 shall remain in effect for five (5) years and may be reissued if the person submits a form to the Department.

D. Siting, Design and Operational Requirements

- (a) Per IC 13-20-10 the composting facility shall comply with the following siting requirements:
 - (1) The active area of a composting facility may not be located within two hundred (200) feet of a well that supplies potable water.
 - (2) The active area of the composting facility may not be located within two hundred (200) feet of a residential structure that exists at the time that the facility initially registers with the department.
 - (3) The active area of a composting facility must be located outside of the ten (10) year floodplain, except a facility that is either; operated in conjunction with a publicly owned works permitted under IC 13-15-3; or designed and operated to provide adequate controls to prevent ground or surface water contamination in the event of a ten (10) year flood.

- (b) Notwithstanding subsection (a) above, a local unit of government may adopt an ordinance providing the distance required between a composting facility for vegetative matter and an existing residence. An ordinance adopted under this subsection may not:
- (1) allow a composting facility to locate less than two-hundred (200) feet from an existing residence; or
 - (2) require a composting facility to locate more than six-hundred (600) feet from an existing residence.
- (c) Notwithstanding subsection (a) above, a composting facility for vegetative matter may be located less than two-hundred (200) feet from a residence if:
- (1) no local unit of government with jurisdiction over:
 - (A) the residence; or
 - (B) the composting facility;has adopted an ordinance under subsection (b) above; and
 - (2) the composting facility obtains written consent from the occupant and owner of the residence.
- (d) Per IC 13-20-10 the composting facility shall comply with the following design and operational requirements:
- (1) The facility must be designed to prevent compost from being placed within five (5) feet of a water table or provide adequate controls to prevent ground or surface water contamination. NOTE: The following alternative designs are considered acceptable by the department.
 - (i) Construction of a clay pad liner with thickness of at least two (2) feet and a hydraulic conductivity no greater than 1×10^{-6} cm/second.
 - (ii) Placement of a concrete or asphalt pad.
 - (iii) Utilization of a synthetic liner system.
 - (iv) Lowering of the water table beneath the active area of the composting facility so that a five (5) feet separation distance is provided between compost and the water table.
 - (v) Other design. (You must submit a management plan that follows the format in section F of this document).
 - (2) The facility must be designed to adequately control run-on/runoff from the composting facility and manage leachate that is generated by the composting

facility. **NOTE:** The following practices may be implemented to properly manage run-on/runoff and leachate from the facility:

- (I) Surface water drainage runoff should be diverted away from the compost site through the use of ditches, dikes, berms or swales. The diversion of run-on away from the active area should minimize the amount of leachate and runoff that must be managed.
 - (ii) Any leachate that is collected must be disposed of in accordance with the rules promulgated under IC 13-11. Leachate and runoff originating from the active area may be directed to a collection pond for use as a moisture additive in the composting process. Leachate and runoff collected in a holding pond for subsequent discharge may require a NPDES permit through the Office of Water Management. For more information regarding NPDES permits, contact Mr. Virgil Bradford with the Office of Water Management at (317) 232-8703.
 - (iii) The composting facility should be designed and operated to prevent ponding of water in between windrows. Windrows placed parallel to the slope should allow for proper drainage.
 - (iv) The composting facility should be graded and maintained to provide a slope of no less than two-percent (2%) and no greater than six-percent (6%).
 - (v) Other specific practices. (You must submit a management plan that follows the format in section F of this document.
- (3) The facility must include control for dust, odors, and noise.
- (i) The facility must be operated in such a manner that fugitive dust does not leave the site in violation of 326 IAC 6-4.
 - (ii) The facility must implement management practices to prevent offensive and noxious odors from leaving the site.
 - (iii) The facility must be operated in such a manner that excessive noise from the facility is minimized.
- (4) If any nuisance or pollution conditions are created, immediate corrective action must be taken by the owner/operator.
- (5) Any materials received that are unsuitable for composting must be stored in enclosed, leakproof containers and disposed of in accordance with the Indiana Solid Waste Rule (319 IAC 10).

- (6) Before being placed in windrows, yard waste must be removed from containers and bags unless they are contained in biodegradable bags.

E. REPORTING

- (a) A person who operates a composting facility that must be registered under this IC 13-20-10 shall submit an annual report to the department before February 1 of each year that

F. GROUNDWATER PROTECTION/LEACHATE MANAGEMENT PLAN

As an alternative to the methods outlined in section D(b)(1)(I)-(iv) and section D(d)(2)(I)-(iv), the applicant may propose other methods of ground water protection and proper management of leachate and runoff at the composting facility. These persons must submit a management plan that should include the following components:

1. Describe management practices to be employed to protect ground water and properly manage leachate and runoff
2. Provide specifics to demonstrate that your design will adequately protect ground water and properly manage leachate and runoff
3. Provide design drawings to show that your facility will properly manage leachate and protect ground water. Drawings should include detailed views and necessary cross sections to show all elements of your design.